

A RADIOCARBON DATE FOR THE WOODEN TIE BEAMS IN THE WEST GALLERY OF ST. SOPHIA, ISTANBUL

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THE Director of the Museum of St. Sophia, Bay Feridun Dirimtekin, graciously permitted four specimens of wood from that venerable building to be submitted to radiocarbon analysis for the purpose of dating. Counts were run on the four specimens at the Institute of Geophysics, University of California.

Only two of the specimens will be referred to in this paper, UCLA 562 and UCLA 563.¹ Both were taken from the west gallery of St. Sophia. In the middle of the gallery, where it touches the great nave, are three large arches, each spanned by a tie beam placed slightly above the spring points of the arches. These tie beams are entirely of wood; the beams themselves are roughly hewn and are encased on the bottom and sides by boards about 3.8 cm. thick (figs. 1-4). The over-all width of the central tie beam (including its casing) is 32 cm.; its height 40 cm. The two specimens were taken from the beam of the southern arch, whose over-all height is 27 cm.

The wood of the beam has almost disintegrated through dry rot, and at some time a plank was nailed on top of it to afford a solid block for the attachment of fastenings from which lamps or other objects could safely be hung (fig. 2). One specimen was taken from the beam itself, the other from the inner side of the casing board which faces the gallery (more precisely from a point a little below its exposed upper edge). This board had been at least stained, if not painted or varnished, a dark brown. None of the surface of the board which might have been

contaminated by the stain was taken for testing, since, unless the wood were clean, the test results could not be depended upon for an accurate date of the wood itself.

The casings are carved in low relief with distinctive decorative motifs. A secure date for these motifs would provide a point of reference for dating related motifs on carved marble slabs. There is a considerable literature concerning carved marble slabs (generally of the period from the sixth to the tenth century) in the West. No corpus of similar material has as yet been gathered from Byzantine monuments. It appears, nevertheless, that East and West developed in independent directions from a common base after the sixth century. However that may be, dating of Eastern slabs has proved extremely unreliable and it has been necessary to turn to architecture in the attempt to find a definite point of reference.

St. Sophia is a treasure house of ornamental motifs. Unfortunately, the records of the history of the building, in so far as they exist at all, are so vague that for the non-specialist it is very difficult to tell whether a given element is original or restored and, if the latter, at what date. It may be hoped that problems such as these will be considerably clarified by the publication of Robert Van Nice's monumental survey of the church.

There is no question at least that the actual building, St. Sophia III, was constructed at the order of Justinian between 532 and 537.² The dome, weakened by earthquakes in 553 and 557, collapsed along with the great eastern arch and part of the half dome. It is not known for certain what was

¹ The two specimens not discussed in this paper are UCLA 564 and UCLA 565. UCLA 565 was taken from the wooden core of a former door valve, now in a storage room of St. Sophia and tested A.D. 1770 \pm 70. UCLA 564 was taken from the wooden core of the north valve of the central doors between the nartheces of St. Sophia and tested A.D. 410 \pm 70.

² These and the following dates are taken from: E. H. Swift, *Hagia Sophia* (New York, 1940); Paul A. Underwood, "The Portrait of the Emperor Alexander," *Dumbarton Oaks Papers*, 15 (1961), p. 214.

actually dismantled before reconstruction, on a slightly different scheme, was begun. It has been suggested that the great walls to the north and south above the galleries had to be rebuilt. Records indicate that repairs and refurbishment were carried out during the reigns of Basil I (867–886) and Basil II (976–1025). Another severe quake in 1343 weakened the eastern arch again, but the arch did not collapse until 1346, when most of it fell, together with the eastern semi-dome, part of the pendentives, and a third of the great dome. The building was repaired by about 1355. Parts of the interior were re-arranged after the Turkish conquest in 1453, and the building underwent various vicissitudes culminating in the very thorough restoration ordered by Sultan Abdul Medjid and executed by Gaspard Fossati from 1847 to 1849.³ Careful records of consolidation, restoration, and redecoration have been kept only since the 1930's when the building became a museum.

Fortunately, radiocarbon analysis can give us dates which history and style alone cannot. The wood of the beam itself is counted as A.D. 470 \pm 70. There is a two out of three chance that the actual count is absolute. In all probability this means that the beam was used in the original construction of 532–537, was never removed, and has never been changed. Through all the vicissitudes of time the arches of the west gallery have stood, probably intact and possibly with the original mosaics in their soffits. The beams penetrate so far into the masonry on either side that to have moved them would have dislodged the mosaic tesserae at the points where the beams enter the wall, and this has not happened to any appreciable extent.

The count for the wooden casings is A.D. 830 \pm 70. This means that the actual boards are datable to the late eighth or ninth century. If the mean date of 830 is taken, they were executed during the Iconoclastic period, possibly during the reign of the Emperor Theophilus (829–842). A pair of bronze doors, inscribed with the date 841, replacing 838, and the names of the Emperors

Theophilus and Michael and the Empress Theodora, is still in place at the south end of the inner narthex.⁴ It is not unreasonable to assume that Theophilus ordered certain other embellishments for the interior of the great church, including the decorative casings for the beams in the west gallery.

Theophilus is a fascinating name to conjure with in Byzantine art. We know that this Emperor was actively interested in contemporary Arabic art, specifically that of the Abbasid caliphs of Bagdad. In 835 he had constructed a palace which was a reproduction of one at Bagdad.⁵ The chronicle known as *Theophanes Continuatus* specifically states that the Palace of Bryas on the Asiatic side of the Bosphorus reproduced the plans and decorations of Arab palaces, descriptions of which were brought to Constantinople for that purpose by the Emperor's ambassador to the Caliph. Theophilus built a great deal more than the pleasure retreat of Bryas, particularly within the grounds of the Sacred Palace. He built with luxurious lavishness, but all of his works have disappeared. The decorations of the tie beams in the west gallery of St. Sophia may give us some insight into the art of the palace in the early ninth century. Interestingly, the decoration on these beams is related to that which has been identified as the Omayyad style of the seventh and eighth centuries in Syria, a style which derived from Sassanian originals.

Along each surface of the casings is a series of interlacing circles, a very common motif throughout the Mediterranean world during the Early Christian era, especially in mosaics and metalwork. Inside the circles are rosettes, crosses, and a variety of palmettes. It is the latter which are related to the Sassanian-Omayyad type of decoration, as also are the filler motifs placed in the spandrels along the edges of the frames. These include heart-shaped leaves or, if the stem is included, ace-of-spade shapes (figs. 1, 2), and wide-spread acanthus or winged palmettes with two leaves or feathers ar-

⁴ E. H. Swift, *op. cit.*, p. 55 ff.

³ Cyril Mango, *The Mosaics of St. Sophia at Istanbul*, Dumbarton Oaks Studies, 8 (1962), pt. 1.

⁵ André Grabar, "Le succès des arts orientaux à la cour byzantine sous les Macédoniens," *Münchener Jahrbuch der Bildenden Kunst*, 3rd ser., 2 (1951), pp. 56–57.

ranged in an arch shape at the center top (figs. 3, 4).

On the beams to the south and north is a palmette of three-lobed leaves curving upward to enclose a palmette of two-lobed leaves the outer of which reverse the curve of the lower leaves, the inner creating a cresting arch (figs. 1, 2). On the panel toward the gallery side of the central beam are more complex shapes such as a circle divided into four parts so that the motif contained in each field retains a vertical or horizontal axis (fig. 3, at far left). This motif is a palmette made of three-lobed leaves rising to a closed peak. The under panel of the central beam is the most complexly decorated of all (fig. 4). In one circle are four three-lobed palmettes surmounted by tiny arches. In another three-lobed palmettes are drawn so that the top two leaves arch upward and meet at the circle's edge. In still another a three-lobed palmette spreads its arms outward following the circle, and at its end is a reversed continuation of the same element brought to a peak against the circle on the axis of the motif. In the center is a three-petalled flower.

These motifs certainly show inventiveness and ingenuity, but the basic palmette or wing shape belongs to the Sassanian repertory. Among their closest parallels are the motifs found on the bronze tie-rod coverings preserved in the Dome of the Rock at Jerusalem built by the Ommayyad Caliph, Abd-al-Malik (685-705), possibly in 690/1.⁶ It is characteristic of this style that the motifs are rather large in scale; that they are placed on a horizontal or vertical axis; and that they are rigid (rather than flowing), static, and symmetrical.

Additional evidence, outside the capital, of the presence of Sassanian-Ommayyad features in Byzantine sculpture before the tenth century is given by the architectural decorations of the church at Skripu, near Thebes, in Greece. Skripu is dated by inscription 873/4.⁷ It has a much greater

repertory than that afforded by the three tie beams from St. Sophia. The type of carving, with its emphasis on crispness rather than a white-black contrast, is similar in both monuments and is also typical of Byzantine marble carving after the sixth century. The forward elements are not undercut but rise from the background plane by shallow curves at the edges of the motifs. The repertory of motifs includes rosettes and palmettes. At Skripu there is the additional element of animals—birds and lions in particular—used decoratively. The lions, with their bodies in profile and their heads full front, are very reminiscent of Sassanian prototypes.

In tenth-century sculpture the most beautiful examples of the Sassanian-Ommayyad style come from the church of the Virgin, now called Fenari Isa Camii, in Istanbul. This church was founded by Constantine Lips, a favorite of Leo VI, and dedicated probably in the year 907.⁸

In it there is preserved a large amount of carved marble relief decorating the bases of the central dome and the main apse, the string courses marking the springings of some of the vaults, and the plinths, shafts, and capitals of the window mullions, specifically in the apses. Stunning in quality of execution and design are two plinths carved respectively with a winged palmette and a winged palmette surmounted by an outspread peacock tail.⁹ One shaft has a series of repeated palmettes ascending vertically, while between the eagles of the capital above is another feather palmette.¹⁰

André Grabar most recently has argued that the Sassanian quality in the style of the sculptures at Fenari Isa Camii represents a revival of Justinianic motifs within the general framework of the Macedonian Renaissance.¹¹ The Renaissance artists used what-

⁶ Th. Macridy, "The Monastery of Lips (Fenari Isa Camii) at Istanbul, with Contributions by A. H. S. Megaw, C. Mango, and E. J. W. Hawkins," *Dumbarton Oaks Papers*, 18 (1964), p. 249 ff.

⁷ *Ibid.*, Mango-Hawkins, figs. 19, 20.

⁸ *Ibid.*, fig. 18.

⁹ André Grabar, *Sculptures byzantines de Constantinople, IV-X siècles*, Bibliothèque archéologique et historique de l'Institut français d'archéologie d'Istanbul, 17 (Paris, 1963), pp. 100-122.

⁶ K. A. C. Creswell, *Early Muslim Architecture*, I (Oxford, 1932), p. 46.

⁷ J. Strykowski, "Inedita der Architektur und Plastik aus der Zeit Basilios I," *Byzantinische Zeitschrift*, 3 (1894), pp. 1-16; Maria Soteriou, "O naos tes Skripous tes Boiotias," *Archaiologike Ephemeris* (1931), pp. 119-157.

ever prototypes of the sixth century were available for their particular media.¹² Hence, in ivory carving and some manuscripts an antique classical style is found. In architectural sculpture, ceramic ware, and also in manuscripts the Sassanian-Ommayyad style is to be found. Grabar prefers this explanation of the appearance of the style to those afforded by hypotheses of direct influence on Constantinople from provincial eastern Persia where the Ommayyad style of the seventh and eighth centuries was still practiced, or of contemporary influence from the heartland of the Islamic world, which was having its own renaissance of this style.

Grabar's theory is based on evidence discovered in 1960 in Istanbul. At that time a group of architectural reliefs was uncovered. Ihor Ševčenko and Cyril Mango were able to demonstrate by means of a contemporary descriptive poem and the presence of inscriptions that these fragments belonged to the Church of St. Polyeuktos, an establishment of the famous Anicia Juliana, built between 512 and 527 or possibly 524 and 527.¹³ These broken segments of niches and entablatures show motifs and an arrangement of motifs associated with the Sassanian style, namely, large single elements, including palmettes, axially oriented and repeated.¹⁴ These are exotic as compared with the decorative repertory in vogue immediately before in the fifth century, for example on the fragments from St. Sophia II. The technique of carving, however, is the same as that found normally in fifth- and sixth-century Byzantine architecture; i.e., the artist used a dark background plane to make a linear pattern

¹² *Ibid.*, pp. 121-122.

¹³ Cyril Mango and I. Ševčenko, "Remains of the Church of St. Polyeuktos at Constantinople," *Dumbarton Oaks Papers*, 15 (1961), pp. 243-247.

¹⁴ *Ibid.*, figs. 8, 10, 12-14.

on the surface stand forth in a striking contrast of white.

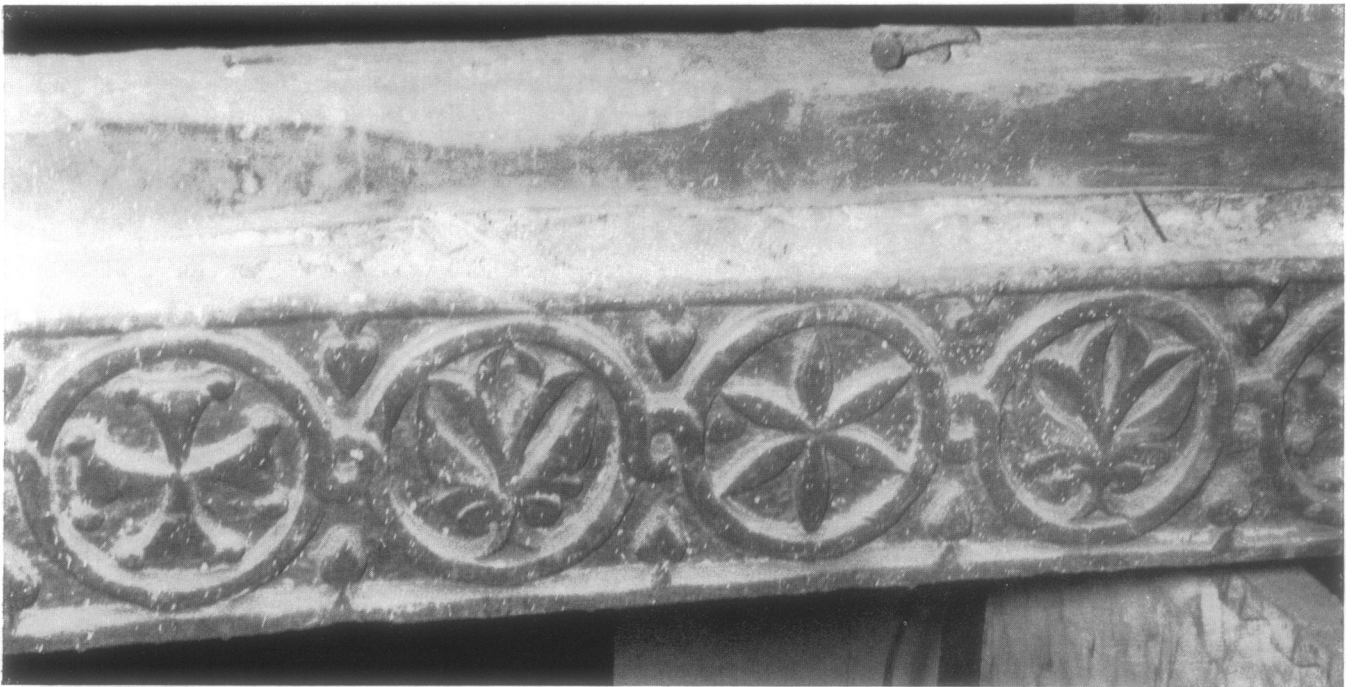
If we look at the multitudinous motifs covering the interior of St. Sophia III, only a few decades later in date than St. Polyeuktos, we can isolate some examples which belong to the style in question. One is particularly distinctive: a split palmette with a pine cone or artichoke rising in the middle, decorating the tie-rod casings throughout the church (fig. 5). This design might be considered as later in date than the sixth century, but the same palmette is carved on the entablatures in the interior of Sts. Sergius and Bacchus (fig. 6), and other not dissimilar motifs are found on the intarsia frieze beneath the plaster cornices, in the narthex of St. Sophia (fig. 7).

The occurrence of Sassanian elements in sculpture in the first half of the sixth century in Byzantium needs to be recognized and explained, as do their appearance in the ninth century and their development from the tenth century onward. With varying degrees of importance, and in a variety of media such as silk, metal, ceramics, marble, vellum, etc., the style seems to have been present at Constantinople continuously from the sixth century on. It is indeed this stylistic factor which most clearly distinguishes Byzantine decorative sculpture from similar monuments in the West from the sixth through the tenth centuries. There is no need to posit Arabic influence even during the reign of Theophilus.

In general this paper is intended to do no more than point out the presence in Byzantine art before the tenth century and after the sixth of elements associated with Sassanian art. This raises the further questions, however, of the origins of the Ommayyad style and of the relation of Constantinople to Syria in the fifth and sixth centuries.



1. Wooden Tie Beam in South Arch, seen from the West



2. Detail of Tie Beam shown in Figure 1, from above, showing location of specimens



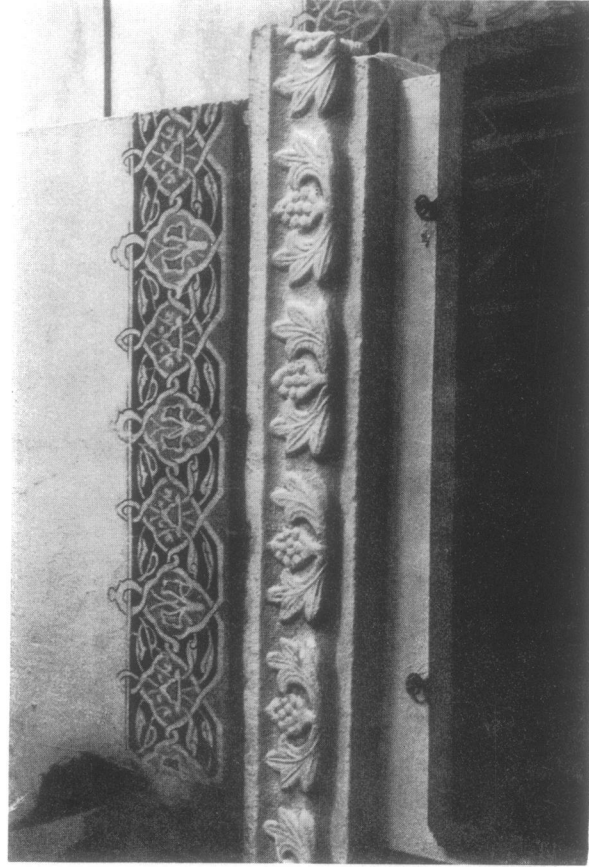
3. Wooden Tie Beam in Central Arch, seen from the West
Istanbul, St. Sophia, West Gallery



4. Istanbul, St. Sophia, West Gallery. Wooden Tie Beam in Central Arch, from below



5. Istanbul, St. Sophia, South Gallery. Wooden Tie Beam in East Bay



6. Istanbul, Church of Sts. Sergius and Bacchus, Bema, North Pier, Cornice



7. Istanbul, St. Sophia, Narthex. Intarsia Frieze beneath Plastic Cornice